

PEST MANAGEMENT



Pests are organisms that harm gardens and landscapes. Many people think of insects when they think of pests, but fungi, bacteria, viruses, weeds, rodents and other animals can be as troublesome. They compete with us for food, injure plants and are a general annoyance. Pests can often be controlled without **undue** damage to the environment.

A totally pest-free garden, though seemingly desirable, would be expensive and is **unattainable**. A more reasonable plan should be to keep pest populations within a tolerable level, a concept known as integrated pest management or IPM. A low level of pests must survive in order to maintain a population of their natural enemies.

Know the Garden

Do you know what is going on in your garden? Inspect the plants for insect and disease damage. Find out what is living on the underside of the leaves. What creatures can be found under the cover of darkness?

Many insects such as ladybugs and praying mantises are beneficial. Only a relatively small number of species are harmful. Plants can tolerate some insect damage without significant loss to yield or aesthetics.



Good gardening is based on understanding nature's interactions. At the first sight of an insect, weed or disease,

stay calm. Do not run for the sprayer or duster. Find out if it actually is a pest (check with Cooperative Extension, a garden center or applicable reference), and if so, use the least toxic method of control, i.e., pull the weed, remove the diseased leaf or squash the harmful insect. The more often garden chemicals are used, the greater the risk of endangering our health and the environment.

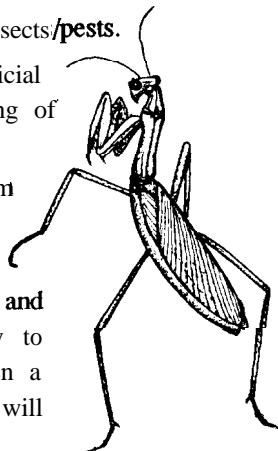
By looking at the pest problem realistically, it is possible to:

- save money by buying fewer pesticides
- save time by addressing only what needs to be controlled
- save the Sound and other water bodies by introducing less chemicals into the environment.

Sound Gardening Prevents Problems

Make the garden a healthy place for preferred plants and an undesirable place for pests by:

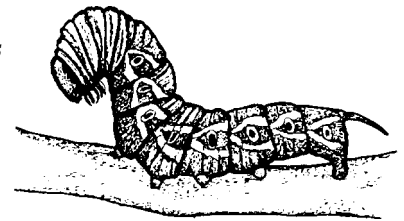
- * Selecting appropriate species or varieties that are insect and/or disease resistant.
- * Providing proper moisture levels to maintain plant health and thus conserve water.
- * Maintaining proper fertility and pH levels by having the soil tested and applying only the nutrients needed. Soil amended with compost or other types of organic matter will help retain fertilizer.
- * Rotating various groups of plants, where practical, to reduce insect and disease problems.
- * Keeping the garden free of debris (dead plants, discarded bricks or boards and brush piles) to limit hiding places for insects and slugs.
- * Timing plantings to avoid known insects/pests.
- * Encouraging the buildup of beneficial insects and mites, and the planting of ornamentals.
- * Properly identifying the problem before control measures are activated.
- * Estimating the potential damage and deciding whether it is necessary to control insects and mites. If given a chance, perhaps natural predators will take over.
- * Selecting the least toxic chemical approach to control the problem.
- * Observing and recording the results of any activity taken. Remember, a decision not to spray is an action taken.



Non-Toxic Control Methods

Insects

- Prune out heavily infested parts of the plant. This method is often used against localized infestations of scale insects.
- Cover crops with screening, floating or framed row covers, etc., to prevent insects from migrating from nearby areas. The covers must be removed when insect pollinated crops come into flower.
- Insect traps can be used. Follow instructions for critical density per crop.
- Wash insects and mites off with a stream of water.
- Hand pick insects and slugs and squash egg masses.



Diseases

- Plant disease-resistant varieties.
- Rotate annual and vegetable plants where practical and avoid using plants especially prone to disease attacks.
- Space and prune plants to improve air circulation.
- Time overhead irrigation early enough in the day to allow the foliage to dry before nightfall.
- Avoid infecting other plants by pruning out diseased parts and discarding heavily diseased plants.

Slugs

- Use shallow containers of beer to monitor for slugs.
- Provide hiding places (overturned pots, boards, burlap), check them frequently and kill slugs.

weeds

- Use mulches to prevent weed germination.
- Hand weed and/or cultivate weekly.

Pesticides

Pesticides (insecticides, miticides, herbicides, etc.) are chemicals used to control pests. If used improperly, they can have an impact beyond their intended target. The continuous accumulation and combination of small amounts of toxic substances can create problems. If misused, small quantities of toxic chemicals can cause environmental disruption.

A pest population can become resistant to pesticides when only one or two products are used repeatedly against a specific pest. Synthetic chemical pesticides should be the last defense to control a pest only after other forms of control have been exhausted.

The ***Sound Gardening*** strategy is to reduce the amount of chemicals introduced into the environment, apply the product properly only when needed and keep pesticides in the target area.

If Pesticides Are Used!

Chemical controls should be applied only when the pest is present or if weather conditions are favorable for the outbreak of a regularly occurring disease (scab on an apple). Spraying should not be set by the calendar. Schedule treatments to be most effective **and least** disruptive to naturally existing pest predators. Be sure to use proper safety equipment and procedures as directed on the label.

Choose the Right Chemical

Seek good advice when in doubt about a problem. Choose the least toxic alternative: pyrethrins, insecticidal soap, horticultural oils, rotenone and the biologicals, *Bacillus thuringiensis* (B.t.) and milky spore. Buy only what you need for one season. Some pest control products lose their effectiveness sitting on the shelf. Some will require specific storage conditions.

Check the Label

Re-read the label each time you use the pesticide. Make sure the pest and plant or site is listed. Labels change and newer restrictions could have been added.

Mix Correctly

Do not guess when mixing. Measure and follow the label recommendations carefully, mixing only the amount that you will use that day. Do not add more than is required. It can damage the plant or harm people and the environment.

Be Prepared For Spills

Clean up spills right away. Your chemical storage area should have a non-porous floor to facilitate cleaning spills. It should not have a drain. Set up a barrier to contain spills such as cat litter. Do not flush spilled material down a drain. Carefully sweep up spilled powders and dusts. Scrub wood, cement or tile surfaces with a small amount of water and activated charcoal. Place all contaminated material in a plastic bag, seal and dispose of properly at a household hazardous waste collection day or facility.

Apply Chemicals Properly

Read and follow all safety precautions on the label. Do not apply pesticides when:

- it is windy or raining
- there is a possibility they will enter a stream, lake or drain
- the temperatures are above 85°F.

Disposal of Leftover Pesticide Mix

Use it up as directed on the label. Never pour onto bare ground or down a drain.

Disposal of Unused Pesticide Concentrate

Use the pesticides as directed on the label. Record how much was actually needed for future reference. Do not pour unused portions down a drain. It could end up in the Sound. If the pesticide is no longer effective or wanted, call the town for information on household hazardous waste disposal programs in your area.

Store Properly and Safely

Store all pesticides in their original properly labeled containers. Keep them on secure strong shelves in a locked cabinet away from heat and moisture. Always keep them away from children, pets and irresponsible adults.

Dispose of Empty Containers Properly

Triple rinse empty containers and use the rinse water for the spray. Read the label for proper disposal instructions.

REMEMBER

- * Practicing **Sound Gardening** prevents pesticide misuse.
- * Pest control choices can impact water quality.
- * Good garden management is the best means of controlling **pests**.
- * Many insects are not **harmful** to plants.

For more information on Sound **Gardening** and pest management, contact your local Cooperative Extension office.

In Connecticut:

Stom: (203)486-3435 New London: (203)887-1608
Fairfield: (203)797-4176 New Haven: (203)789-7865
Hartford: (203)241-4940 Middlesex: (203)345-4511
Litchfield: (203)567-9447 Windham: (203)774-9600
Tolland: (203)875-3331

In New York:

Nassau (516)454-0900
Suffolk (516)727-7850
Westchester (914)682-3072

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